REQUEST FOR QUOTATION

CITY OF DANVILLE
427 Patton Street
P.O. Box 3300
Danville, VA 24543
(434) 799-6528
FAX: (434) 799-5102
E-mail: purchasing@danvilleva.gov Internet: www.danville-va.gov
TAX ID # 54-600-1243

RFQ NUMBER: Q003268
RFQ DATE: 06/01/16

THIS IS NOT AN ORDER

VENDOR

BID

VENDOR # BID

SHIP TO

UTILITIES STOREROOM
UTILITY SERVICE CENTER
1103 GOODYEAR BLVD
DANVILLE, VA 24541

Deliver To: BETTY CUSTER

Instructions:

It is understood that our terms and conditions listed on back will apply to any order that may result from this solicitation.

Note any exceptions for our consideration.

F.O.B. Destination: It is the basic policy of the City to receive goods F.O.B. (free on board) Destination, which means that freight charges are paid by the seller who owns and assumes all risk for the goods until they are accepted at the designated delivery point. The cost of shipping the goods may be included in the quoted price or by the seller as a separate line item.

Quote Required By	Send Quote To
06/16/16	GARY VIA

R029765

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
			**********QB 15-16-138**********		
			"MATERIALS FOR BALLOU PARK PHASE 3"		
			ONLY SEALED BIDS WILL BE ACCEPTED. BIDS WILL BE ACCEPTED BY THE DIRECTOR OF PURCHASING UNTIL 2:00 PM, THURSDAY, JUNE 16, 2016.		
			ONLY SEALED BIDS WILL BE ACCEPTED		
			DIRECT PURCHASING QUESTIONS TO: J. GARY VIA, DIRECTOR OF PURCHASING AT (434) 799-6528.		
			DIRECT TECHNICAL QUESTIONS TO: BETTY CUSTER, STOREROOM SUPERVISOR, PH: 434-857-3305		
			MAIL SEALED BIDS TO: CITY OF DANVILLE PURCHASING DEPT. 427 PATTON ST., ROOM 304		
				TOTAL	

Payment Terms	Freight Terms	Delivery Promised	Telephone	Fax

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			DANVILLE, VA 24541 MARK ON THE OUTSIDE OF THE ENVELOPE: ***QB 15-16-138*** You are invited to provide a bid for the following materials for Phase 3, for the Danville Utilities Department. (Includes Attachment). All bids shall include shipping and handling. Materials are to be delivered to job site: 620 West Main Street Danville, VA 24541 (Ballou Park Reservoir). QUOTE IMPORT AND THEN QUOTE DOMESTIC AS ALTERNATE		
001	1,170	FT	16" DUCTILE PIPE PUSH JOINT 18' LENGTHS ALTERNATE: DOMESTIC $_____		
002	324	FT	12" DUCTILE IRON PIPE PUSH JOINT 18' LENGTH ALTERNATE: DOMESTIC $_____		
003	54	FT	8" DUCTILE IRON PIPE PUSH JOINT 18' LENGTH ALTERNATE: DOMESTIC $_____		
004	18	FT	6" DUCTILE IRON PIPE PUSH JOINT 18' LENGTH ALTERNATE: DOMESTIC $_____		
				TOTAL	

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ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
005	5	EA	16" MJ-W VALVE MUELLER ALTERNATE: DOMESTIC $_____		
006	2	EA	12" MJ-RW VALVE MUELLER ALTERNATE: DOMESTIC $_____		
007	1	EA	8" MJ-RW VALVE MUELLER ALTERNATE: DOMESTIC $_____		
008	1	EA	6" MJ-RW VALVE MUELLER ALTERNATE: DOMESTIC $_____		
009	1	EA	2" BRASS BALL VALVE FE X FE THREAD ALTERNATE: DOMESTIC $_____		
010	1	EA	16" x 12" MJ TEE ALTERNATE: DOMESTIC $_____		
011	1	EA	16" X 8" MJ TEE ALTERNATE: DOMESTIC $_____		
012	1	EA	12" X 12" MJ TEE ALTERNATE: DOMESTIC $_____		
013	1	EA	12" X 6" MJ TEE ALERNATE: DOMESTIC $_____		
014	1	EA	20" MJ SLEEVE ALTERNATE: DOMETIC $_____		
015	3	EA	16" MJ SLEEVE ALTERNATE: DOMESTIC $_____		
016	1	EA	12" MJ SLEEVE ALTERNATE: DOMESTIC $_____		
				TOTAL	

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017	1	EA	10" MJ SLEEVE ALTERNATE: DOMESTIC $_____		
018	1	EA	8" MJ SLEEVE ALTERNATE: DOMESTIC $_____		
019	1	EA	16" 90 BEND MJ ALTERNATE: DOMESTIC $_____		
020	15	EA	16" 45 BEND MJ ALTERNATE: DOMESTIC $_____		
021	4	EA	12" 45 BEND MJ ALTERNATE: DOMESTIC $_____		
022	4	EA	8" 45 BEND MJ ALTERNATE: DOMESTIC $_____		
023	4	EA	16" 22.5 BEND MJ ALTERNATE: DOMESTIC $_____		
024	1	EA	12" 22.5 BEND MJ] ALTERNATE: DOMESTIC $_____		
025	1	EA	12" 11.25 BEND MJ ALTERNATE: DOMESTIC $_____		
026	1	EA	2" GALVANIZED 90 BEND ALTERNATE: DOMESTIC $_____		
027	2	EA	16" WYE MJ ALTERNATE: DOMESTIC $_____		
028	2	EA	2" GALVANIZED THREADED COUPLING ALTERNATE: DOMESTIC $_____		
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029	1	EA	1" COMBINATION AIR RELEASE VALVE W/HOOD VAL-MATIC VM-201C-H ALTERNATE: DOMESTIC $_____		
030	1	EA	1" CORPORATION STOP FORD F1000-3-G OR EQUIVALENT ALTERNATE: DOMESTIC $_____		
031	1	EA	3/4" FIP X 1" MIP BRASS BUSHING ALTERNATE: DOMESTIC $_____		
032	1	EA	3/4" BRASSS NIPPLE MIP CLOSE ALTERNATE: DOMESTIC $_____		
033	1	EA	3/4" BALL VALVE CURB STOP 3/4" CTS GRIP JOINT X 3/4" FIP (FORD B41-333-G) ALTERNATE: DOMESTIC $_____		
034	1	EA	3/4" BRASS NIPPLE MIP X 6" ALTERNATE: DOMESTIC $_____		
035	1	EA	3/4" BRASS 90 BEND ELL FIP ALTERNATE: DOMESTIC $_____		
036	2	EA	24" MJ CAP - TAPPED 2 ALTERNATE: DOMESTIC $_____		
037	1	EA	20" MJ CAP - TAPPED 2 ALTERNATE: DOMESTIC $_____		
038	6	EA	16" MJ CAP - TAPPED 2 ALTERNATE: DOMESTIC $_____		
039	1	EA	12" MJ CAP - TAPPED 2 ALTERNATE: DOMESTIC $_____		
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040	1	EA	8" MJ CAP - TAPPED 2 ALTERNATE: DOMESTIC $_____		
041	14	EA	2" GALVANIZED PLUG SOLID (DOMESTIC ONLY)		
042	1	EA	10" MJ CAP - TAPPED ALTERNATE: DOMESTIC $_____		
043	2	EA	6" MJ CAP ALTERNATE: DOMESTIC $_____		
044	2	EA	4" MJ CAP ALTERNATE: DOMESTIC $_____		
045	1	EA	3" MJ CAP ALTERNATE: DOMESTIC $_____		
046	2	EA	16" MJ PLUG - TAPPED 2 ALTERNATE: DOMESTIC $_____		
047	1	EA	24" GLAND KIT ALTERNATE: DOMESTIC $_____		
048	1	EA	20" GLAND KIT ALTERNATE: DOMESTIC $_____		
049	6	EA	16" GLAND KIT ALTERNATE: DOMESTIC $_____		
050	1	EA	12" GLAND KIT ALTERNATE: DOMESTIC $_____		
051	1	EA	10" GLAND KIT ALTERNATE: DOMESTIC $_____		
052	1	EA	8" GLAND KIT ALTERNATE: DOMESTIC $_____		
053	2	EA	6" GLAND KIT ALTERNATE: DOMESTIC $_____		
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ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
054	2	EA	4" GLAND KIT ALTERNATE: DOMESTIC $_____		
055	1	EA	3" GLAND KIT ALTERNATE: DOMESTIC $_____		
056	1	EA	20" X 16" MJ REDUCER ALTERNATE: DOMESTIC $_____		
057	1	EA	12" X 10" MJ REDUCER ALTERNATE: DOMESTIC $_____		
058	1	EA	24" MEGALUG ALTERNATE: DOMESTIC $_____		
059	1	EA	20" MEGALUG ALTERNATE: DOMESTIC $_____		
060	52	EA	16" MEGALUG ALTERNATE: DOMESTIC $_____		
061	1	EA	10" MEGALUG ALTERNATIVE: DOMESTIC $_____		
062	7	EA	8" MEGALUG ALTERNATE: DOMESTIC $_____		
063	4	EA	6" MEGALUG ALTERNATE: DOMESTIC $_____		
064	6	EA	16" FOSTER ADAPTER ALTERNATE: DOMESTIC $_____		
065	6	EA	12" FOSTER ADAPTER ALTERNATE: DOMESTIC $_____		
066	1	EA	8" FOSTER ADAPTER ALTERNATE: DOMESTIC $_____		
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PURCHASE ORDER TERMS AND CONDITIONS

1. Show the purchase order number indicated on the upper right-hand corner on all cartons, correspondence and invoices.

2. All invoices shall be sent to: City of Danville
   Purchasing Dept.
   P.O. Box 3300
   Danville, VA 24543

3. No changes, deletions, or additions may be made to this order without approval of the Director of Purchasing.

4. In case of default by the vendor, or he fails to deliver the supplies or services ordered by the time specified, the City, after due notice (verbal or written), may procure the requirement from other sources and hold him responsible for any excess cost incurred thereby.

5. The vendor shall assume the defense of and indemnify and hold harmless the City, its officers and agents, and employees from and against any and all claims, demands, actions, suits, and proceedings by others arising out of the negligent acts, errors or omissions of the vendor in his performance of this order.

6. The City is exempt from payment of State Sales and Use Tax on all tangible personal property purchased or leased for its use or consumption. Certificate of Exemption will be furnished upon request.

7. All prices are to be quoted FOB Destination, Freight Allowed.

8. This Order and the performance hereof shall be governed by and enforced under the laws of the Commonwealth of Virginia, and if legal action by either party is necessary for or with respect to the enforcement of any or all of the terms and conditions hereof, then exclusive venue therefore shall lie in the City of Danville, Virginia.

9. All goods, material and work covered by this purchase order shall conform to the specifications, drawing, samples, or other description furnished by the City and shall be merchantable, of good material and workmanship, and free from defect. Vendor warrants good title and freedom for encumbrances, and warrants against infringement. Acceptance hereunder may not exclude any warranty.

10. Shipment of goods shall constitute acceptance of this purchase order with its terms and conditions.

11. The City of Danville does not discriminate against faith-based organizations in accordance with the *Code of Virginia* §§ 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

12. This purchase order may be accepted only by complete compliance with its terms and conditions.

Note: This document is included with request for quote for information purposes.

SPECIFICATIONS

for

WATER MATERIALS

CITY OF DANVILLE
WATER & GAS DIVISION
1113 GOODYEAR BLVD
DANVILLE, VA 24541
(434) 799-5268

May 2016

1 SECTION 3 - GENERAL CONSTRUCTION MATERIALS

1.1 Tracer Wire

Tracer wire shall be AWG No. 12, single conductor copper clad steel (CCS) wire. The wire shall have a high-flex (annealed) carbon steel core with a concentrically clad copper coating measuring at least 3% of the conductor diameter. Insulation shall be minimum 30 mil, solid color, 30 volt high density polyethylene designed to meet U.S.E. requirements for buried service. Insulation color shall be yellow for gas and blue for water. Acceptable manufacturers are Pro-Line Safety Products, Kris-Tech Wire, Agave Wire, or equivalent.

1.2 Warning Tape

Warning tape shall be polyethylene with a three (3) inch width, and have a minimum 4.0 mil overall thickness. The warning tape shall be non-metallic/non-conductive. The warning tape, including labeling, shall not contain any dilutants, pigments or other contaminants, and shall resist degradation by elements encountered in the soil. The warning tape for gas shall be color coded solid yellow and imprinted with black words "Caution – Gas Line Buried Below". The warning tape for water shall be color coded solid blue and imprinted with black words "Caution – Water Line Buried Below".

2 SECTION 7 - MATERIALS FOR WATER FACILITIES INSTALLATION

2.1 Pipe

2.1.1 Ductile Iron Water Pipe

Ductile iron pipe (DI) furnished for diameters three (3) through twenty four (24) inches shall be manufactured in accordance with the most recent edition of ANSI/AWWA C151, in eighteen (18) foot lengths with single rubber gasket joints in accordance with the most recent edition of ANSI/AWWA C111 push-on type, unless mechanical or flange joints are otherwise specified or shown on the Plans. Joints for ductile iron shall conform to the most recent edition of ANSI/AWWA C110.

Three (3) and four (4) inch diameter pipe shall be Special Class 51 wall thickness and six (6) through twenty-four (24) inch diameters shall be Special Class 50 wall thicknesses in accordance with the most recent edition of ANSI/AWWA C150, unless otherwise specified or shown on the Plans. Flanged pipe shall be Special Class 53 wall thickness.

Each length of pipe shall be marked with the weight, thickness, class designation, manufacturer's mark and year in which the pipe was cast.

Ductile iron pipe shall be double cement lined in accordance with the most recent editions of ANSI/AWWA C104 and NSF/ANSI 61 and shall have an exterior asphalt coating in accordance with the most recent edition of ANSI/AWWA C151.

The only acceptable manufacturers are Griffin Pipe, U.S. Pipe and Atlantic States.

2.1.2 Polyethylene Water Pipe

Polyethylene water transmission and distribution pipe for diameters four (4) inch through twelve (12) inch shall be high-density polyethylene meeting the specifications and requirements of the most recent edition of AWWA standard C906 and the Plastic Pipe Institute. The pipe shall meet the requirement of the following standards: ASTM F714, NSF/ANSI 14 and NSF/ANSI 61. Pipe shall be joined by zero leak-rate thermal butt fusion, saddle fusion, electrofusion, and approved mechanical joints. The

polyethylene pipe and fittings shall be made from resin of a minimum cell classification of PE445574C in accordance with ASTM D3350. Materials shall be stabilized against ultraviolet deterioration and shall be suitable for unprotected outdoor storage for at least four (4) years.

Polyethylene pipe shall be PE 4710 (3408) provided in ductile iron pipe size (DIPS). Wall thickness shall meet the Dimension Ratio (DR) system of the most recent edition of AWWA C906. Dimension Ratio shall be DR 11.0, with a working pressure rating of 200psi as directed by the Engineer. On non-coil sizes, laying length shall be forty (40) feet standard. Pipe and fittings shall be marked as prescribed by the most recent edition of AWWA C906 and NSF. Pipe markings shall include nominal size, outside diameter (OD) or nominal diameter base (i.e. 12" DIPS), dimension ratio, pressure class, working pressure rating, AWWA C906 and manufactures name. Pipe shall have three equally spaced pairs of blue color stripes coextruded into the pipe outside surface.

The only acceptable manufacturer is Performance Pipe Driscoplex 4000, meeting the above referenced standards.

2.1.3 Polyethylene Water Tubing

All polyethylene water service tubing furnished for diameters three-quarter (3/4) inch through two (2) inch shall be high-density polyethylene meeting the specifications and requirements of the most recent edition of AWWA C901. Polyethylene tubing shall be PE 4710 (3408), and the tubing and fittings shall be made from resin of a minimum cell classification of PE445574C in accordance with ASTM D3350. The tubing shall meet the requirement of the most recent editions of the following standards: ASTM D2737, ASTM D3035, NSF/ANSI 14 and NSF/ANSI 61. All three-quarter (3/4) inch and one (1) inch polyethylene tubing shall be copper tubing size (cts), and two (2) inch polyethylene tubing shall be iron pipe size (IPS). Polyethylene tubing shall have a minimum working pressure rating of 200 psi.

Acceptable manufacturers for three-quarter (3/4) inch and one (1) inch tubing shall be EndoPure with blue outer shell, as manufactured by Endot Industries. Two (2) inch tubing shall be Driscoplex 4100, as manufactured by Performance Pipe.

2.2 Fittings

2.2.1 Polyethylene Fittings

Polyethylene molded pipe fittings shall be butt fusion, saddle fusion or electrofusion fittings manufactured by an approved manufacturer and shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe and 7.1.3 Polyethylene Water Tubing. Polyethylene fittings shall be manufactured in accordance with ASTM D2683 or ASTM D3261. The SDR of the polyethylene fittings installed shall match or exceed the SDR of the pipe. The difference in the SDR of the fitting and the pipe shall not exceed one SDR size. All three-quarter (^{3}/4) inch through one and one-half (1.5) inch fittings shall be copper tubing size (CTS) and all two (2) inch fittings shall be iron pipe size (IPS). All fittings four (4) inch and larger shall be SDR 11, ductile iron pipe size (DIPS). Polyethylene fittings shall be Pressure Class 200 unless otherwise specified or shown on the Plans. The only acceptable manufacturer is Performance Pipe.

2.2.1.1 Fabricated Straight Reducing Tees

Polyethylene fabricated straight reducing tees shall consist of line pipe and a branch saddle fitting. The line pipe shall be similar in length to a standard molded tee. The branch saddle fitting shall be fusion applied, the line pipe tapped through the branch saddle fitting with a full outlet opening, and a section of pipe with a minimum length of twelve (12) inches fused to the outlet of the branch saddle fitting in the manufacturer's facilities. The branch saddle

and line pipe shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe.

2.2.1.2 Electrofusion Fittings

Electrofusion fittings shall be manufactured of polyethylene resins compatible with PE 3408/3608, high-density pipe. The fittings shall be engineered to be used with and meet or exceed the resistance properties of SDR 11 polyethylene pipe. Approved manufacturers are Innoge PE Industries (Innogaz), Frialen Safety Company (Friatec), and Central Plastics Company.

2.2.1.3 Polyethylene Mechanical Joint Adapters

Mechanical joint adapters shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe and 7.1.3 Polyethylene Water Tubing, and manufactured in accordance with the most recent edition of NSF 14/61. A metallic stiffener shall be incorporated with and inset in the adapter. The adapter shall have a molded ledge formed during the manufacturing process for securing the metallic flange to the adapter. The end of the adapter shall be beveled for joining with ductile iron pipe. Approved manufacturer is Performance.

2.2.2 Ductile Iron Fittings

Compact ductile iron fittings, bolts and nuts shall be manufactured in accordance with the most recent edition of ANSI/AWWA C153 with mechanical joints, unless otherwise specified or shown on the Plans. Fittings shall be pressure rated at 250 psi. Ductile iron fittings shall be double cement lined in accordance with the most recent edition of ANSI/AWWA C104 and shall have an exterior asphaltic coating in accordance with the most recent edition of ANSI/AWWA C151. Ductile iron fittings shall be installed on ductile iron and polyvinyl chloride (PVC) pipe.

2.2.2.1 Restrained Joints

Restrained joints for ductile iron pipe shall be as designed by the pipe manufacturer in accordance with the applicable provisions of the most recent editions of ANSI/AWWA C110 and ANSI/AWWA C111.

For mechanical joint pipe, restraint shall be retainer gland type with individual wedge restraints. Acceptable manufacturers are EBBA Iron Sales Inc., Romac Industries Inc., Star Pipe Products, or approved equivalent.

2.2.3 Service Tees

Service tapping tees for polyethylene mains shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe and 7.1.3 Polyethylene Water Tubing. The service tee shall be approved for use in a potable water system. The incorporated pipe cutter shall be brass. Service tees for polyethylene mains shall be sidewall fusion fittings or electrofusion fittings. Service tees for two (2) inch polyethylene mains shall be electrofusion fittings. Tapping tee outlet SDR shall match the SDR of the connecting piping. The cap of the service tapping tee shall provide a leak free seal between the cap and the stem of the tee. The base (saddle) of the tapping tee shall match the size of the main that is being tapped.

Sidewall fusion fittings shall be standard chimney or (preferably) low chimney with round bases and self-tapping with DIPS sized outlets, except for three-quarter (3/4) inch and one (1) inch services that shall have CTS sized outlets and two (2) inch shall have IPS sized outlets. The cap of the service-

tapping tee shall provide a leak free seal between the cap and the stem of the tee. The base (saddle) of the tapping tee shall match the size of the main that is being tapped. Approved Manufacturer of PE Sidewall service tees is Performance Pipe.

Electrofusion service tees shall be standard chimney or (preferably) low chimney and self-tapping with DIPS sized outlets, except for three-quarter (3/4) inch and one (1) services that shall CTS sized outlets and two (2) inch shall have IPS sized outlets. The cap of the service tapping tee shall provide a leak free seal between the cap and the stem of the tee. Approved Manufacturer of PE Electrofusion Service Tees is Central Plastics Company.

2.2.4 Transition Fittings

Polyethylene to metallic pipe fittings shall be specified for use in a potable water system. The metallic portion of the fitting shall be brass and the end to be threaded to fit standard AWWA water fittings. The polyethylene portion of the fittings shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe and 7.1.3 Polyethylene Water Tubing. Acceptable manufacturer is Elster Perfection or approved equal.

2.2.5 Mechanical Couplings

Mechanical couplings used to join polyethylene water pipe to existing ductile iron, cast iron, or steel pipes shall be Maxi-Grip by Smith Blair. No other couplings will be accepted. All Maxi-Grip couplings shall be Class III, providing complete electrical isolation from the metallic pipe.

Mechanical couplings used to join polyethylene water pipe to existing copper pipe shall be brass, straight compression type end.

2.3 Valves

All valves to be installed in the water distribution system shall be wrench operated, open left, low maintenance or no maintenance valves as indicated on the Plans and as specified herein.

2.3.1 Polyethylene Valves

All polyethylene main valves shall be full opening, ball type and maintenance free. The valves shall be composed of the same material as the pipe, as specified in 7.1.2 Polyethylene Water Pipe. Valve outlets shall be manufactured for butt fusion. The valves shall have factory applied PE 3408 extensions, in conformance with 7.1.2 Polyethylene Water Pipe on both ends. Extensions shall be joined by butt fusion. Valves shall have a two (2) inch operating nut and open left. Acceptable manufacturers are Flowserve Corporation. (Polyvalve), Kerotest (Polytec), or Elster Perfection Corporation (PSV).

2.3.2 Resilient Seated Gate Valves

Resilient seated gate valves shall comply with the most recent edition of AWWA C509 with a minimum working pressure of 200 psi. The valve shall be iron wedge and the valve seat fully encapsulated with molded rubber. Valves shall have mechanical joint ends in accordance with ANSI/AWWA C111, current edition, unless otherwise specified or shown on the Plans. The valves shall have a two (2) inch square operating nut, non-rising stem and shall open left. The stuffing boxes shall be equipped with O-ring seals. Valves shall have iron bodies with fusion epoxy coating. The interior and exterior coatings of resilient seated gate valves shall be in accordance with ANSI/AWWA C550, current edition, and be NSF 61 approved for potable water use. Acceptable manufacturers are 6" Valve Mueller only. 8" to 12" Mueller or Kennedy Valves.

2.3.3 Cut-Off Valves

Cut-off valves shall be brass and manufactured in accordance with the most recent edition of ANSI/AWWA C800, with a working pressure rating of not less than 200 psi. End connections shall be straight compression type. Acceptable manufactures are A.Y. McDonald, Mueller Company, or approved equivalent.

2.3.4 Coppersetters

Coppersetters for three-quarter (3/4) inch through two (2) inch diameter shall be manufactured in accordance with the most recent edition of ANSI/AWWA C800. Three-quarter (3/4) inch coppersetters shall be for a 5/8"x3/4" meter. Three-quarter (3/4) inch and one (1) inch coppersetters shall be seven (7) inch rise, with an angle lockwing inlet ball valve, standard meter nut outlet, and compression end connections. The meter connections shall be equipped with plugs to prevent debris from entering. Acceptable manufactures for three quarter (3/4) inch and one (1) inch are A.Y. McDonald, Ford Meter Box Company or Mueller Company. One and one-half (1.5) inch and two (2) inch coppersetters shall be Mueller B-2423 series. Check valves are not permitted.

2.3.5 Corporation Stops

Corporation stops for three-quarter (3/4) inch through two (2) inch diameter water service lines shall be manufactured in accordance with the most recent edition of AWWA C800. Inlet threads shall be AWWA/Mueller "CC" taper thread. Outlets shall be straight compression connection. One and one-half (1.5) inch and two (2) inch corporation stops shall be utilized with appropriate tapping saddles. Acceptable manufactures for corporation stops shall be Ford (F1000-3-G), Mueller (H-15008), or Engineer approved equivalent.

2.4 Solid Rubber Ring Gasket

All gaskets shall be solid rubber rings in accordance with the most recent edition of ANSI/AWWA C111. Gaskets shall be free from porous areas, foreign debris and other defects. Rubber gaskets shall be made of vulcanized styrene butadiene rubber (SBR). Reclaimed or natural rubber shall not be used. Molded markings shall not be located on the sealing surfaces. Only gaskets of the proper diameter shall be used.

2.5 Fire Hydrants

Fire hydrants shall be Mueller Super Centurion part number 423-523414 for mechanical joint connection or part number 423-530132 for Aquagrip connection (when specified by the Engineer). **No other models will be allowed.**

Hydrants shall be traffic model - post type dry barrel, manufactured in accordance with the most recent edition of AWWA C502 for a working pressure of 200 psi. The inlet connection shall be six (6) inches mechanical joint or Aquagrip (when specified by the Engineer). The main valve opening shall be five and one quarter (5-1/4) inches diameter, open left, with drain outlets and synthetic rubber drain valve facing. The hydrants shall have one pumper outlet nozzle, four and one-half (4-1/2) inch (Seagrave 4-488 threading only) with two hose outlet nozzles, two and one- half (2-1/2) inch NST. Operating and nozzle cap nuts shall be one and one-half (1-1/2) inch pentagon. Hydrants shall be shop painted above ground with fire hydrant red. Hydrants shall have a bury depth of three (3) feet- six (6) inches. If equipped, any nozzle cap chains shall be removed.

2.6 Locating Stations and Valve Boxes

Locating and valve boxes, extension pieces and lids shall be slip-type cast iron as manufactured by Bingham and Taylor, or Engineer approved equivalent. Valve boxes shall be suitable for HS-20 (AASHTO) traffic loading. Valve box components shall conform to the City of Danville standard detail 9.4 , "Water & Gas

Valve Box Assembly". Lids shall be compatible with existing Bingham and Taylor valve box top sections installed in the distribution system, and be cored pick hole style. Screw-type valve boxes may be utilized upon approval by the Engineer.

Valve box lids shall have the word "WATER" embossed on top and shall be painted blue. Locating station lids shall have the word "TEST" or "T" embossed on top.

2.7 Meter Boxes

Meter boxes shall be plastic, 18" bury depth, rectangular style, with solid plastic lid. Acceptable manufacturers are Carson (1419) or Engineer approved equivalent.

2.8 Service Saddles

Service saddles for ductile iron, PVC and/or polyethylene pipe (where required) shall conform to the requirements of the most recent edition of AWWA C800 with a working pressure of 200 psi. The saddle assembly shall have tapered AWWA threads and shall be brass, bronze or ductile iron with a single, full-width stainless steel strap. Saddles for polyethylene pipe must utilize spring washers. Acceptable manufacturers are A.Y. McDonald, Mueller, Romac, or approved equivalent.

2.9 Mechanical Couplings

Mechanical couplings shall be gasketed, sleeve-type to match the outside diameter of the pipes on which installed. Each coupling shall consist of a steel middle ring, two (2) steel followers, and two (2) compounded wedge section gaskets. Acceptable manufacturers are American Ductile Iron Pipe Company, Star Pipe Products, U.S. Pipe, or Engineer approved equivalent.

Couplings for copper pipe shall be straight end compression type.